

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-22 (Canceled).

Claim 23 (New): A static electricity eliminator comprising:
at least one injector having a body that defines a supersonic nozzle for holding a compressed gas;
a corona point located close to a throat of the nozzle; and
an electric supply circuit connected to the corona point,
wherein the corona point is formed by a surgical needle composed of chromium-steel,
whose point has a diameter of less than 30 micrometres.

Claim 24 (New): The eliminator according to claim 23, wherein the supersonic nozzle is formed of a metal insert including a hollow cylindrical part extending forward by a conical part ending with a flange oriented inwards, the whole being molded from an epoxy insulator so as to cover with insulator the conical part and its flange both outside and inside, and a front of the inner cylindrical part.

Claim 25 (New): The eliminator according to claim 24, wherein the hollow cylindrical part forming the metal insert of the nozzle is equipped at its rear part with a female thread and has an outer wall having a same diameter as a cylindrical metal tube that protects a front part of the injector and that is located adjacent to the metal insert.

Claim 26 (New): The eliminator according to claim 25, wherein the needle is supported by an insulating mantle having a threaded front part configured to screw into the female thread of the rear end of the metal insert of the nozzle.

Claim 27 (New): The eliminator according to claim 26, further comprising a metal ring configured to slide with gentle friction over the rear part of the nozzle and over the cylindrical metal tube and to be fixed thereon in a selected position so as to ensure conductive contact between the metal insert of the nozzle and the metal tube.

Claim 28 (New): The eliminator according to claim 26, wherein the insulating mantle is equipped internally with a fixing device formed by two metal rings penetrated by apertures to allow the passage of the compressed gas, and one of which at least is equipped with a thread.

Claim 29 (New): The eliminator according to claim 28, wherein the needle is carried by a threaded support configured to be screwed or unscrewed in the fixing device to effect approximate control of the position of the point of the needle relative to the throat of the nozzle.

Claim 30 (New): The eliminator according to claim 29, wherein the relative position of the point of the needle and the throat of the nozzle can be adjusted rapidly and with precision, without dismantling the injector, by screwing or unscrewing the nozzle on the front threaded end of the insulating mantle, which surrounds the needle support.

Claim 31 (New): The eliminator according to claim 23, wherein the needle comprises a conical recess formed at a rear end located opposite the point.

Claim 32 (New): The eliminator according to claim 31, wherein the rear end of the needle is engaged inside a recess in a form of a hollow cylinder formed at the front of a metal support in a shape of a cylinder, the recess having a diameter larger by several hundredths of a millimeter than that of the needle, and wherein the rear end of the needle is fixed in the cylindrical recess by widening walls of the conical recess of the needle following crushing of the walls between an inner wall of the support and a ball of a ball-point pen of appropriate diameter.

Claim 33 (New): The eliminator according to claim 35, further comprising a metal T-shaped connection allowing introduction of compressed gas into the injector and interposed between a metal tube protecting a front of the injector and another metal tube protecting a rear of the injector so as to form a contact with the tubes to ensure continuity of a conductive link between the front and rear of the injector.

Claim 34 (New): The eliminator according to claim 33, wherein the metal tube protecting the rear of the injector is in contact with a metal fixing device configured to anchor a coaxial cable for supplying a high voltage to the needle, the metal fixing device being in contact itself with a metal casing of this cable connected to ground.

Claim 35 (New): The eliminator according to claim 23, wherein the electricity supply circuit of the corona needle includes two components in series between the needle and a secondary of a transformer that supplies thereto the high voltage, of a capacitor of a value of between 20 pF and 200 pF, and a resistor of a value of between 1 MΩ and 100 MΩ.

Claim 36 (New): The eliminator according to claim 35, wherein the capacitor and the resistor are located in an insulating envelope including apertures formed for passage of input and output connections that are covered with a thermosetting insulating polymer to prevent penetration of damp air into the envelope.

Claim 37 (New): The eliminator according to claim 34, wherein the coaxial cable supplying the high voltage ends on the side of an electrical supply circuit with a high-voltage plug, passes through the central aperture of a revolving metal part, which has a flat side located opposite the high-voltage device, with a milled recess configured to mount a toric joint about the central aperture, the revolving part having an outer diameter larger than that of the high-voltage plug, whereas the central aperture has a diameter smaller than that of the plug.

Claim 38 (New): The eliminator according to claim 37, further comprising a conduit composed of impermeable plastics material disposed about the coaxial cable supplying the high voltage to the injectors, the sealing-tightness being supplemented by mounting of first and second stuffing boxes, the first stuffing box placed about an input of the cable into the injector and the second stuffing box placed at an input of the revolving part.

Claim 39 (New): The eliminator according to claim 35, wherein the revolving part includes a threaded cylindrical extension on a side oriented towards the supply device, the extension projecting via an aperture of diameter greater than that of the high-voltage plug into a cabinet enclosing the electricity supply, a toric joint being applied in a sealing-tight manner to an outer wall of the cabinet by screwing a threaded ring on to the threaded extension.

Claim 40 (New): The eliminator according to claim 23, wherein the electricity supply circuit of the injector has high-voltage transformers, whose primary winding is connected to an output of a synchronous static relay supplied by an alternating voltage source.

Claim 41 (New): The eliminator according to claim 40, wherein application of a primary voltage to the static relay is controlled by a time-delayed relay whose coil is supplied from a pressure-sensitive switch connected to the distribution network of compressed gas supplied to the at least one injector.

Claim 42 (New): The eliminator according to claim 41, wherein the at least one injector is supplied with compressed air at a pressure of between 12 and 5 bars, at a dew point of between -19°C and -40°C.

Claim 43 (New): The eliminator according to claim 23, further comprising an even number of injectors, each group of two injectors being formed of injectors having voltage-current properties that are as similar as possible, each of the two injectors being connected to an opposite polarity of an alternating supply.

Claim 44 (New): The eliminator according to claim 43, wherein for each group of two injectors, the primary winding of the high-voltage transformer supplying a first injector and the primary winding of the high-voltage transformer supplying a second injector are in phase opposition.